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# Chronic Leg Ulcer in the Older Age Group: Etiology and Management

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**Abstract:** Chronic leg ulcer is commonly encountered in clinical practice. Its incidence is rising in the developed countries as a result of the ageing population. In Nigeria, its prevalence and natural history is scarce, the researchers hereby reviewed case of chronic leg ulcer managed in the hospital with respect to its etiology and management in the older age group. A prospective clinical based study was conducted in the hospital for chronic leg ulceration in patients aged 50 years and above. The data were analysed using SPSS version 11.0 computer software. A total of 33 patients aged 50 years and above were managed during the study period. There are 15 males (45.5%) and 18 females (54.5%) with a M:F ratio of 1:1.2. About 17 patients (51.5%) have their ulcers in the right legs and different etiology factors were reported. In most black African nations, older people are left for their family to take care of them. There is a need to educate the younger ones to take their older people to a qualified orthodox care provider so as to improve the quality of life care given and thereby improving their health related quality of life.

**Key words:** Leg ulcer, etiology, management, old age, aetiogical factor, chronic

## INTRODUCTION

A wound is an area of compromised tissue integrity while an ulcer is a type of wound and a site on or in the body when the surface lining has been lost or deepithelised (Oluwatosin, 2007a, b). When a wound is healing by secondary intention, it becomes chronic if it does not show any healing tendency under appropriate casual and local therapy within a period of 8 weeks. However, Oluwasanmi in Ibadan, Nigeria quoted a time frame of 6 week for a managing wound to become chronic (Ellermann and Rothel, 2004; Oluwasanmi *et al*., 1979).

Chronic leg ulcer is commonly encountered in clinical practice. In the Western population, its incidence is rising as a result of the ageing population. Where figures are available, the prevalence of chronic leg ulcer is about 1-2/1000 of the general population and 3-5% in the population over 65 years of age (Baker *et al*., 1991; Mekkes *et al*., 2003). Information about its prevalence and natural history in Nigeria is however scarce. Leg Ulceration occurs more frequently in the older people (Jull *et al*., 2004) and this usually affect their health-related quality of life and imposes significant burden on them. Because this clinical condition virtually have an impact on every aspect of their daily life, It has decided to review the etiologic factors and management of chronic leg ulcers in this group of our patients with the aim of improving on their care and thus the quality of their life.

## MATERIALS AND METHODS

A prospective clinical based study was conducted on the patients managed in the hospital for chronic leg ulceration aged 50 years and above between the period of January 2004-December 2006. Informed consent was obtained from the patient and a semi-structured questionnaire was administered to each patient. Information on patient's demographics, clinical presentation, etiology, site of ulcer, associated medical disease and outcome were documented. Data were analysed using SPSS version 11.0 computer software.

## RESULTS AND DISCUSSION

A total of 33 patients aged 50 years and above were managed out of 60 patients managed during the study period, thus constituting 55% of the total patients studied. There are 15 (45.5%) males and

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18 females (54.5%) with a M:F ratio of 1:1.2. Table 1 shows the age distribution where 22 (66.7%) were aged 60 years and above. About 17 patients (51.5%) have their ulcers on the right leg, 15 (45.5%) patients have it on the left leg, only 1 (3%) patient presented with bilateral leg ulcer. Table 2 shows different aetiologic factors. About 19 (57.6%) patients developed chronic leg ulcer from trauma, 12 patients (36.4%) presented with leg ulcer secondary to infection and 1 patient presented with malignant ulcer.

Table 3 shows associated medical disease. About 18 (24.2%) patients were hypertensive and 7 (21.2%) patients have type 2 diabetes mellitus, 4 patients (12.1%) were both diabetic and hypertensive, 1 patient has associated varicose veins.

The doctors managed the patients with wound dressing using antiseptic lotions like Cetrimide, Hydrogen-peroxide and Hypochlorite Solution. Highly infected wound were dressed with honey.

Some of the patients had wound debridement done; wound dressing before split thickness skin grafting. Two of the patients had wound debridement with cross-leg flaps. Table 2 shows outcome of treatment. About 24 (72.7%) patients had their ulcers healed completely before discharge, 3 patients (9.1%) had almost healed ulcer with dressing at discharge, 4 (12.1%) patients discharged against medical advice and 2 (6.1%) patients died.

Table 1: Age distribution of patients above 50 years with chronic leg ulcer (n = 33)

| Age distribution | Frequency | % |
|---|---|---|
| 50-59 | 11 | 33.3 |
| 60-69 | 13 | 39.4 |
| 70 and above | 9 | 27.3 |
| Total | 33 | 100.0 |

Table 2: Etiology of chronic leg ulcer in patients above 50 years (n = 33)

| Parameters | Frequency | % |
|---|---|---|
| Trauma | 19 | 57.6 |
| Infective | 12 | 36.4 |
| Malignant | 1 | 3.0 |
| Unknown | 1 | 3.0 |
| Total | 33 | 100.0 |

Table 3: Associated medical conditions in patients above 50 years with chronic leg ulcer (n = 33)

| Associated medical diseases | Frequency | % |
|---|---|---|
| Diabetic mellitus | 7 | 21.2 |
| Hypertension | 8 | 24.2 |
| Diabetes and hypertension | 4 | 12.1 |
| Chronic osteomyelitis | 1 | 3.0 |
| Varicose veins | 1 | 3.0 |
| Others | 1 | 3.0 |
| None | 11 | 33.3 |
| Total | 33 | 100.0 |

Figure 1a, b show a 55 years old civil servant with chronic leg ulcer on both the medial and lateral maleoli of the left leg. Figure 2a, b show the outcome of wound excision and Split Thickness Skin Graft (STSG) before discharge. There are over 40 reported causes of leg ulceration. In the Western populations, most ulcers are related to vascular diseases such as venous disease and peripheral arterial disease (Nelzen *et al*., 1991). In Nigeria, the common aetiological factors are trauma, venous valve insufficiency, diabetes and haematological disease, others are malignancy and infections which could be chronic ab initio or become chronic from an acute infection (Oluwatosin, 2007a, b).

Leg ulceration is a chronic condition, the prevalence of which is likely to increase as population age. Its incidence is rising in the Western nations as a result of the ageing population and increased risk factors for artherosclerotic occlusion such as smoking, obesity and diabetes (Mekkes *et al*., 2003). In Nigeria, the incidence is also rising with age. The result showed that 66.7% of the studied group were aged 60 years and above, this rising incidence may actually be attributable to an increase in trauma most especially Road Traffic Injury (RTI) in the midst of poor health care delivery. A lot of advancement has been made in the care of chronic leg ulcer in the developed nations. In the United Kingdom (UK), treatment of leg ulceration is largely through community services. Community nursing is provided by one agency within a geographical area. More than 80% of patients are treated by these nurses either in their home or in a general


Fig. 1: (a) Ulcer on the medial maleolus and (b) Ulcer on the lateral maleolus

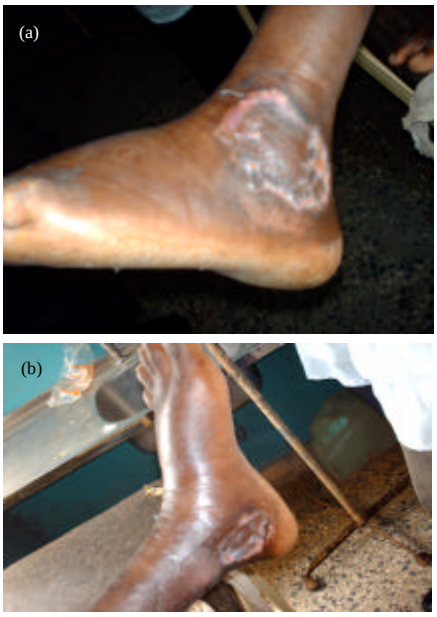


Fig. 2: (a) Post grafted lateral maleolus ulcer and (b) Post grafted medial maleolus ulcer

practice clinic (Callam *et al*., 1985). Many sophisticated dressing materials are available to the wound care practitioner which are made from a wide range of materials including polyurethane such as starch and carboxymethylcellulose. These materials are combined to form products as diverse as films, foams, fibroma products, beads, hydrogels and hyrocolliod dressings (Evans, 1997).

The situation is totally different in most of the developing countries in Nigeria, leg traumas are often managed initially by unqualified personnel as in most other black African countries using cleansing solutions which are often deleterious to the wound healing process. These agents are also used in concentrations that are not standardized. Iodine solution, Hydrogen Peroxide, Cetrimide solution chlorhexidine and Hypochlorites like Eusol and JIK are the agents commonly used for dressing leg ulcers, these agents are however often counterproductive. Leg ulcers onset are said not to be common in the juvenile age group (Gruen *et al*., 1996) unlike the older group. Wound healing has also been said to be delaye in the elderly, therefore leg ulcers management in the older age group could pose a serious challenge to the managing clinician in the developing countries. More than 80% of extremity Squamous Cell Carcinoma (SCC) in the tropics have been reported to be secondary to chronic leg ulcers due to poorly treated traumatic ulcers. The tumour is said to be more aggressive and more prone to metastasis resulting in severe morbidity and sometime loss of limb in the affected patient (Adigun *et al*., 2006a, b).

Primary hypertension and Type 2 diabetes mellitus are common medical conditions in the older age group, therefore, researchers were not surprised with result of the study which shows that 18 patients were hypertensive, 7 patients diabetic and 4 patients with both hypertension and diabetes. These medical conditions are not good prognostic factors; they could increase the morbidity and sometimes the mortality in these older age groups being managed for chronic leg ulceration. There is need to involve the physicians especially the Cardiologist and the Endocrologist in the management of the patients with chronic leg ulcer. If the high blood pressure and glucose level are not well controlled in an old patient with chronic leg ulcer, they could constitute a vicious cycle thus increasing the morbidity or even mortality in that group of patients.

Unlike in the developed nations where older aged group are been cared for by the government, this is not so in most black African nations, older people are left for their family to take care of them. They must be educated to prevent unnecessary injury which could lead to leg ulcer. We need to educate the younger ones to take their older people to a qualified orthodox care provider to prevent chronicity of a wound and also ensure that these health care providers avoid the use of highly concentrated and unstandardized cleansing agents in the management of wound. With all these in place, It might improve the quality of care given to this category of patients thereby improving their health-related quality of life.

## CONCLUSION

In this study, the management of chronic leg ulcer still poses a very serious challenge to the managing clinicians in most black African nations.

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